

// **FreeCOM** *FHD-2*

TECHNOLOGIES USB 2.0 / USB 2.0 & FireWire version

FHD-2
MOBILE HARD DRIVE



Rev. 316

THE FUTURE IS SIMPLE

// **FreeCOM**
TECHNOLOGIES



Dear user!

Thank you for choosing the **Freecom FHD-2** external hard drive. For optimal use and performance we advise you to read this manual carefully before using this product.

Freecom Technologies • Germany
www.freecom.com

Contents of the box

Please check the contents of the box; the following items should be included:

- Freecom FHD-2 external hard drive
- Power Adapter *
- Interface Cable
- CD-ROM with manual, driver and application software
- Quick Install Guide
- Warranty card + envelope

* Use the included AC adapter with i.LINK interface or when the power provided by the USB or FireWire port is not sufficient.

Warning !

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Freecom cannot be made liable for any damages, loss of data or damage following thereof -whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or inability to use this Freecom product, even if Freecom has been advised of the possibility of such damages.

We reserve the right to upgrade our products in keeping with technological advances.

USER MANUAL**GB**

General Information	page 4
Precautionary measures	page 5

CHAPTER 1:

FHD-2 external USB 2.0 hard drive	page 6
---	--------

CHAPTER 2:

Hardware installation	page 7
-----------------------------	--------

CHAPTER 3:

Driver installation	page 9
FHD-2 USB 2.0 version	page 9
FHD-2 USB 2.0 & FireWire version	page 12

CHAPTER 4:

Daily use of the FHD-2	page 15
------------------------------	---------

CHAPTER 5:

Partitioning your FHD-2	page 16
Freecom Internet Service & Support Hotline	page 29

General Information

The following hardware and software requirements must be fulfilled to ensure trouble-free operation.

Hardware Requirements

In order to use the Freecom FHD-2, following components are needed:

- Intel Pentium II 233MHz or higher
- 64MB RAM or higher
- CD-ROM drive for installing drivers and/or software
- USB-2 version: Available USB 2.0 or USB 1.1 port*
- USB-2 & FireWire version: Available USB 2.0 or USB 1.1 port* and/or FireWire interface
- Internet connection for online warranty registration and driver/software updates and downloads

Software Requirements

- Windows 98 SE
- Windows ME
- Windows 2000
- Windows XP

* (USB 2.0 is downwards compatible to USB 1.1. To achieve optimal performance from the Freecom FHD-2 your PC should be equipped with an USB 2.0 port. USB 2.0 PCI Host Controllers are separately available at www.freecom.com).

Precautionary measures

To ensure that your Freecom FHD-2 functions properly, please take note of the following precautions. If these are not followed, you may void your warranty and damage the FHD-2.

- Safely remove the FHD-2 via your operating system (the "unplug or eject hardware" option in the Windows taskbar) before disconnecting the Cable or the power cable. Failing to do so may result in data loss.
- Do not drop the Freecom FHD-2 or expose it to other kinds of sudden mechanical shocks as this may result in data loss and damage to the hard drive.
- Do not use the Freecom FHD-2 when the ambient temperature is below 10°C or above 45°C.
- If the Freecom FHD-2 is moved from a cool environment to a warmer environment, please allow the drive to acclimatize to the ambient temperature before operating the device. Failing to do so may lead to condensation within the drive enclosure, which in turn may cause the drive to malfunction.
- Do not place liquids or drinks on the FHD-2. When liquids are spilled and get in contact with the electronics within the drive enclosure, it will damage the drive and will cause the drive to malfunction.
- Do not use the FHD-2 in a dusty environment. Dust inside the enclosure may damage the internal electronics and result in drive malfunction.
- Only use the power adapter that was supplied with the FHD-2.
- Opening the FHD-2 will void the warranty.

USB-Note: Since USB 2.0 is backwards compatible with USB 1.1, the FHD-2 can be connected to all USB ports. When connected to a USB 1.1 port, however, the performance (data transfer rate) of the FHD-2 will be much lower than when the drive is connected to a USB 2.0 port.

CHAPTER 1: FHD-2 external hard drive

If you are looking for maximum performance, maximum storage capacity and maximum reliability from an external hard drive, the Freecom FHD-2 is the right choice. The hi-speed data transfer through the USB 2.0 and/or FireWire interface makes it ideally suitable for data-storage, file sharing, backup, archiving, digital video editing, audio playback and all applications that need fast file access.

For your convenience, the Freecom FHD-2 has been partitioned (1 partition) and pre-formatted (FAT32 file system). The FAT32 format ensures maximum interchangeability of the FHD-2 between different computers. Should you choose to format the FHD-2 in another file system (e.g. NTFS), please be aware of possible problems when connecting the FHD-2 to another computer than the one you used for formatting.



USB 2.0-Version



USB 2.0 & FireWire-Version

Options:

- Freecom USB 2.0 LE PCI Host Controller, 2 ports
- Freecom FireWire PCI Card
- Additional Cable USB, FireWire Cable, Power Adapter

See www.freecom.com for these and other Freecom products, or contact your local Freecom reseller/dealer.

CHAPTER 2: Hardware Installation



1. Connect the interface cable to the Freecom FHD-2.



2. Connect the cable of the power supply to the FHD-2 and the power supply itself to the socket. Use the included AC adapter with i.LINK interface or when the power provided by the USB or FireWire port is not sufficient.

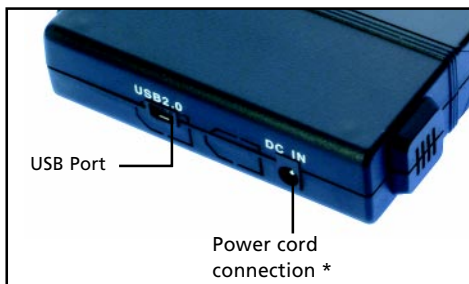


3. Connect the interface cable to the interface port of your computer.

USB-Note: Since USB 2.0 is backwards compatible with USB 1.1, the FHD-2 can be connected to all USB ports. When connected to a USB 1.1 port, however, the performance (data transfer rate) of the FHD-2 will be much lower than when the drive is connected to a USB 2.0 port.

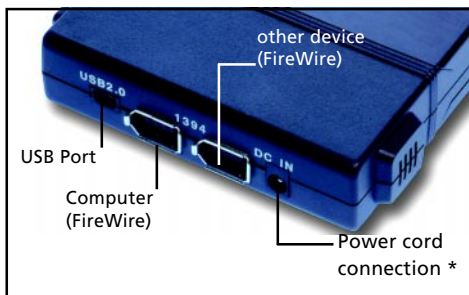
Connect the drive always only either by the FireWire or by the USB port.

USB 2.0 version



Remark (if your drive is connected to the computer via USB): Since USB 2.0 is backwards compatible with USB 1.1, the FHD-2 can be connected to all USB ports. When connected to a USB 1.1 port, however, the performance (data transfer rate) of the FHD-2 will be much lower than when the drive is connected to a USB 2.0 port.

USB 2.0 &
FireWire version



Remark when connecting by the FireWire port: When the drive is connected to the computer by the FireWire port you can connect further peripheral devices to the drive's second FireWire jack.

For optimal performance, the FHD-2 should always be connected to a USB 2.0 port or FireWire port. Freecom USB 2.0 PCI Host Controllers or Freecom FireWire PCI Card are available at www.freecom.com.

CHAPTER 3: Driver installation

Under Windows ME / 2000 / XP a separate Freecom driver is not required. The drivers will be installed automatically by the operating system after plugging in the Freecom FHD-2 into the USB port of the computer.

3.1 FHD-2 USB 2.0 version

Driver installation USB under Windows 98 SE

Note: Your Freecom FHD-2 is fully backwards compatible with USB 1.1. The installation for USB 1.1 is the same as described below for USB 2.0.

1. Insert the Freecom Manual and driver CD into the CD-ROM drive.
2. Connect your Freecom FHD-2 to the USB connector of your notebook or computer.
3. The "Add New Hardware Wizard" opens and a "USB 2.0 Device" (USB 2.0 PCI Host Controller) or a "USB TO IDE" (USB 1.1 connector) is found.



Click on "Next".

4. In the next window select "Search for the best driver for your device. (Recommended)". Click on "Next".



5. Make sure that the checkbox "CD-ROM drive" is activated in the next window.



Continue by clicking on "Next".

6. The Hardware Wizard finds a "Freecom Freecom FHD-2".



By clicking on "Next" the necessary files will be installed. Afterwards click on "Finish" to complete the installation. Congratulations! You've just finished to install the Freecom FHD-2 and the external hard drive is almost ready to use.

3.2 FHD-2 USB 2.0 & FireWire version

Driver installation USB under Windows 98 SE

Connect the drive always only either by the FireWire or by the USB port.

Note: Your Freecom FHD-2 is fully backwards compatible with USB 1.1. The installation for USB 1.1 is the same as described below for USB 2.0.

1. Insert the Freecom Manual and driver CD into the CD-ROM drive.
2. Connect your Freecom FHD-2 to the USB connector of your notebook or computer.
3. The "Add New Hardware Wizard" opens and a "USB 2.0 Device" (USB 2.0 PCI Host Controller) or a "USB TO IDE" (USB 1.1 connector) is found.



Click on "Next".

4. In the next window select "Search for the best driver for your device. (Recommended)". Click on "Next".



5. Make sure that the checkbox "CD-ROM drive" is activated in the next window.



Continue by clicking on "Next".

6. The Hardware Wizard finds a "Freecom Freecom FHD-2".



By clicking on "Next" the necessary files will be installed. Afterwards click on "Finish" to complete the installation. Congratulations! You've just finished to install the Freecom FHD-2 and the external hard drive is almost ready to use.

Driver installation FireWire under Windows 98 SE

The required driver for is automatically installed under Windows ME / 2000 / XP once the FireWire cable has been inserted and it is immediately allocated a drive letter.

Note: FireWire is only supported by Windows 98 SE (and above). If you are using an older version, you must first update Windows.

1. The driver database is loaded automatically after you have connected the FireWire cable to the PC.
2. (Only when you need) Now place the "Windows 98 Installation CD" in your internal CD-ROM drive.
3. The "Hardware assistant" window appears on the screen. Click on "Next".
4. Select the item "Search for the best driver for the device" (Recommended) and confirm with "Next".
5. The CD-ROM drive for the "Windows 98 Installation CD" driver installation is selected in the next window. If the search in the CD-ROM drive has not yet been activated, you should dial this point. Confirm with "Next".
6. The next window shows the driver file found on the CD-ROM. Confirm with "Next".
7. Click on "Finish" in the next window.
8. In order for the changes to take effect, you must restart your computer.

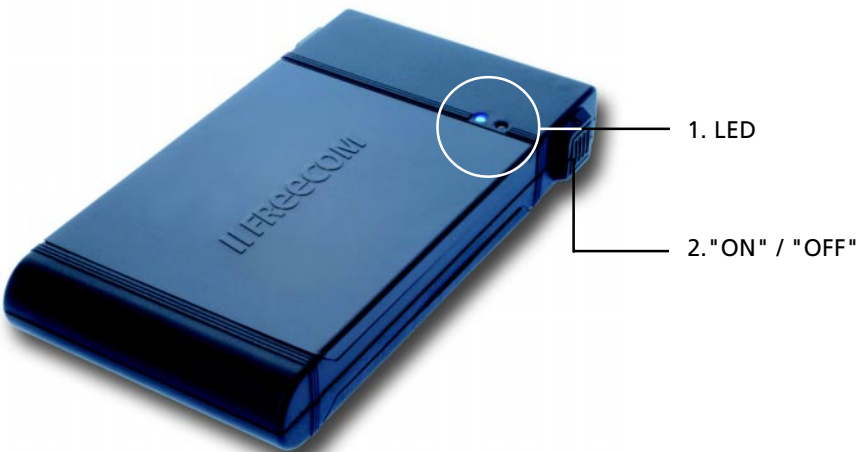
Note: You can plug the drive in and unplug it at the FireWire port while the PC is running. The drive will be recognized automatically under "My Computer" when it is reconnected ("hot plug & play").

CHAPTER 4: Daily use of the FHD-2

GB

4

The hi-speed data transfer through the USB 2.0 and/or FireWire interface makes it ideally suitable for data-storage, file sharing, backup, archiving, digital video editing, audio playback and all applications that need fast file access.



1. The status of LEDs

Die Freecom FHD-2 has two LEDs to indicate its status

LED:	● blue (left)	● red (right)
	"Harddisk Access"	"Power On"

2. Button for switching the FHD-2 on and off

CHAPTER 5: Partitioning your FHD-2

5.1 General information

Your FHD-2 was partitioned and formatted to provide you with the maximum available capacity and compatibility. FAT32 was chosen as file system to assure that you will be able to read your files on any PC. It is recommended not to change the current configuration of your FHD-2.

For some users another file system might fit better for their needs. This manual describes current limitations of most common file systems and Instructions to enable you to adapt the FHD-2 to your needs.

5.2 File System features

Please refer to the tables below for an overview:

File systems supported by different operating systems

Operating system \ File system	FAT	FAT32	NTFS
Windows 98SE	yes	yes	not supported
Windows ME	yes	yes	not supported
Windows 2000	yes	yes	yes
Windows XP	yes	yes	yes

Maximum size of a partition

Operating system \ File system	FAT	FAT32	NTFS
Windows 98SE	2 GB	60 GB ^{*1, 2}	n.a.
Windows ME	2 GB	2 TB ^{*2}	n.a.
Windows 2000	4 GB ^{*3}	32 GB	16 TB
Windows XP	4 GB ^{*3}	32 GB	16 TB

^{*1}: A patch for Windows 98SE is required for hard disk larger than 60 GB.

^{*2}: Hard disk capacity will not be displayed correctly by fdisk!

^{*3}: FAT partitions larger than 2 GB can only be administrated by Windows 2000/XP.

Example for different partitions with different file systems on one FHD-2

Total size of FHD-2	File system	NTFS	FAT32
120 GB		90GB	30 GB

The example above is a good solution for Windows 2000/XP users who sometimes exchange data with Windows 98SE/ME PCs.

For storing the data under Windows 2000/XP both partitions can be used. As the NTFS file system is not recognized by Windows 98SE/ME data to be used on these operating systems must be stored on the FAT32 partition.

Please follow the steps below to adapt the FHD-2 for your needs.

5.3 Partitioning your FHD-2 under Windows 98SE / Windows ME

Windows 98SE only: The fdisk version which is installed together with your operating system does not recognize the correct size of hard disks larger than 64 GB.

Windows 98SE/ME: For large partitions fdisk will not display the partition size correctly! Please ignore this as the partitioning results will still be OK.

5.3.1 Deleting a partition on the FHD-2 under Windows 98SE / ME

The following steps will explain how to delete a partition on your FHD-2.

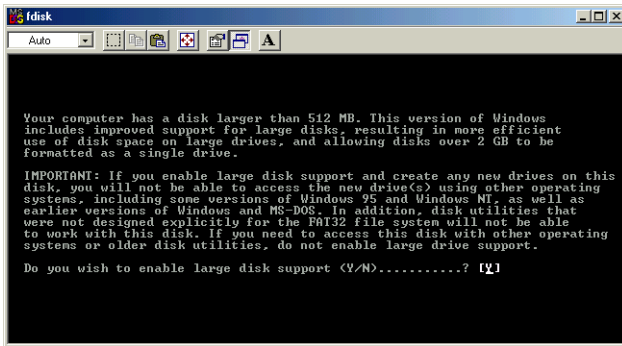
1. Click on the "Start" button.
2. Select "Run".
3. Enter "fdisk" and confirm with "OK".
4. fdisk will be started. Answer the question "Do you wish to enable large disk support?" by pressing the 'Return' key. FAT32 is now activated.
5. Choose Option 5 "(Change current fixed disk drive)" by pressing '5' and 'Return'.
6. Select the hard disk to be deleted by its number. ATTENTION: Please make sure that the correct drive is selected. Selecting the wrong drive will lead to a loss of your data!
7. Choose Option "3 (Delete partition or Logical DOS Drive)" by pressing '3' and 'Return'.
8. Your FHD-2 comes formatted as primary partition. Select option 1 "Delete Primary DOS Partition" by pressing '1' and 'Return'.
9. Select the partition to be deleted by pressing its number and 'Return'.
10. Enter the drive label and press 'Return'.
11. Confirm with 'Y' and 'Return' to delete the partition.
12. Press the 'ESC' key to return to the fdisk options.
13. Press 'ESC' to exit fdisk. Stop your hard disk by using the hot unplug icon in the lower right corner of your screen and remove the FireWire cable from your hard disk. Afterwards connect your hard disk again with your computer. The hard disk will now be recognized by Windows.

As Windows tries to access your hard disk an error message will appear. This happens, because your hard disk is not yet formatted.

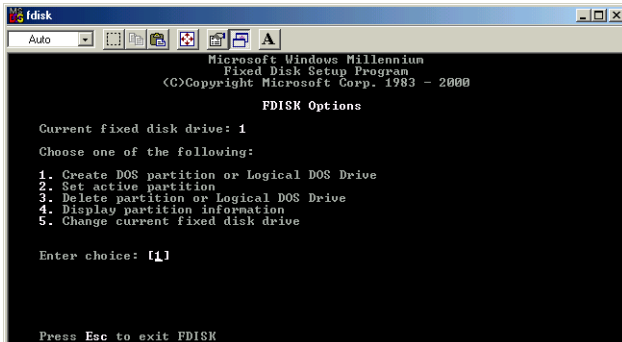
5.3.2 Creating a partition on the FHD-2 under Windows 98 SE / ME

The following steps will guide you the process of creating partitions on your FHD-2 under Windows 98SE/ME. After this procedure your Freecom FHD-2 will be ready for use and it will be allocated a drive letter.

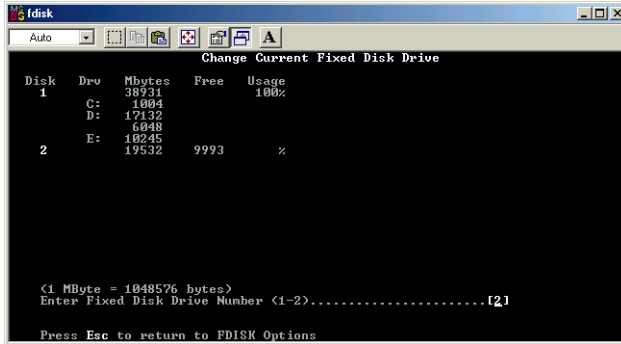
1. Click on the "Start" button.
2. Select "Run".
3. Enter "fdisk" and confirm with "OK".



4. Answer the question "Do you wish to enable large disk support?" by pressing the 'Return' key. FAT32 is now activated.
5. Choose Option "5 (Change current fixed disk drive)" by pressing '5' and 'Return'.



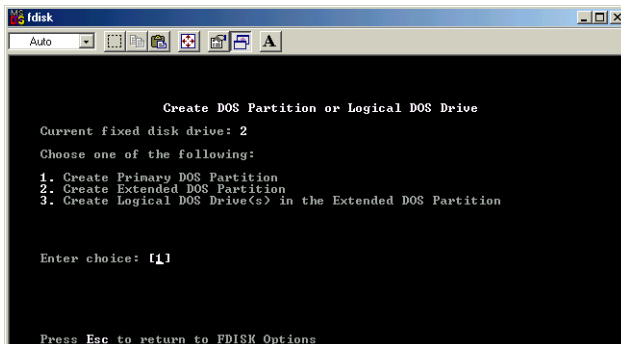
6. Select the hard disk by its number where the "Usage" contains no value but only a percent symbol. Select the number of the corresponding hard disk and confirm by pressing the "Return" key.
- Now your hard disk is activated and ready to be partitioned.



***Note: Partition size of large hard disks will not be displayed correctly!
However partitioning results will be OK.***

7. Select Option 1 "(Create DOS partition or Logical DOS drive)" by pressing '1' and confirm with 'Return'.
8. Select Option 1 "(Create primary DOS partition)" by pressing '1' and confirm with 'Return'.

Wait until drive integrity is completely checked.



9. If only one partition is required then answer "Y" to the question: "Do you wish to use the maximum available size for a Primary DOS partition?" If more than one partition is required go to the next section "Create two or more partitions on the FHD-2 under Windows 98 / Windows ME".

Now the whole disk will be partitioned as one primary partition. Wait until the drive integrity check is completed.

10. Press the 'ESC' key to return to the fdisk options.
11. Now press the 'ESC' key to close the "fdisk window". Your hard disk is now partitioned.

12. Stop your hard disk by using the hot unplug icon in the lower right corner of your screen and remove the FireWire cable from your hard disk. Afterwards connect your hard disk again with your computer. The hard disk will now be recognized by Windows.

As Windows tries to access your hard disk an error message will appear. This happens, because your hard disk is not yet formatted.

5.3.3 Creating two or more partitions on the FHD-2 under Windows 98SE / ME

1. Repeat steps 1 to 7 from the previous chapter (Create one partition on the FHD-2 under Windows 98SE/Windows ME).
2. Answer the question "Do you wish to use the maximum available size for a primary DOS partition?" with "N".
3. Enter either the size or a percentage value for the partition size. Press 'Return' and wait until the drive integrity check is completed.
4. Press the 'ESC' key to return to the fdisk options.
5. Select Option 1 "(Create DOS partition or Logical DOS drive)" by pressing '1' and confirm with 'Return'.
6. Select Option 2 "(Create Extended DOS Partition)" by pressing '2' and confirm with 'Return'. Wait until the drive integrity check is completed.
7. Enter either the size or a percentage value for the partition size or press 'Return' to accept the default value.
8. Press 'ESC' to return and wait until the drive integrity check is completed.
9. A logical drive needs to be defined now. Enter the size of the logical drive and press 'Return' or accept the default value by pressing 'Return'.
10. Press 'ESC' to return to the fdisk options.
11. Now press the 'ESC' key to close the "fdisk window". Your hard disk is now partitioned.
12. Stop your hard disk by using the hot unplug icon in the lower right corner of your screen and remove the FireWire cable from your hard disk. Afterwards connect your hard disk again with your computer. The hard disk will now be recognized by Windows.

As Windows tries to access your hard disk an error message will appear. This happens, because your hard disk is not yet formatted.

5.3.4 Formatting partitions on the FHD-2 under Windows 98SE / ME

1. Double-click on the "My Computer" icon on your desktop.
2. Click with the right mouse button on the drive symbol of your FHD-2. Now a menu will appear where you can choose the option "Format".
3. Please perform a complete formatting of your drive. You can also assign a name to your drive here.
4. After you have completed your selection, click on "Start".

Attention: Selecting the wrong drive will lead to a loss of your data. Please ensure that the correct drive is selected!

5. Confirm the next message with "OK".
6. After formatting is finished you can perform a disk scan. To do so, follow the instructions of the Windows Help system. If you don't want to scan your disk, just close the message window.

Repeat these steps for each partition if more than one partition was created.

Now your FHD-2 is ready for use. You can use it like an internal hard disk for storing your data.

5.4 Partitioning your FHD-2 under Windows XP / 2000

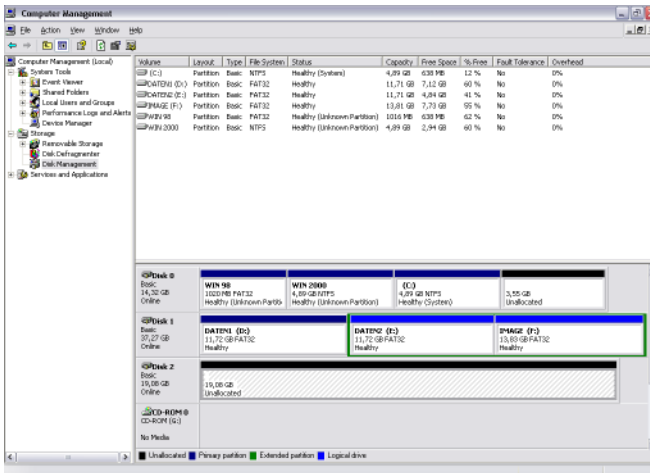
5.4.1 Deleting a partition on the FHD-2 under Windows XP / 2000

1. Click with the right mouse button on the "My Computer" icon on your desktop.
2. Select the option "Manage".
3. Select the option "Storage" -> "Disk Management".
4. Choose your external hard drive and right-click on the partition.
5. Select "Delete Partition" and confirm by clicking on "Yes". The partition will be deleted now.

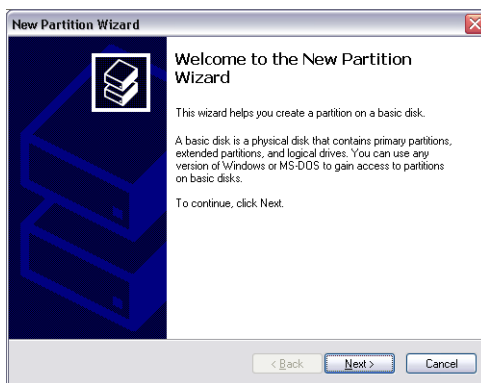
5.4.2 Creating a partition on the FHD-2 under Windows XP / 2000

The following steps will guide you through the process of creating partitions on your FHD-2. After this procedure your Freecom FHD-2 will be ready for use and it will be allocated a drive letter.

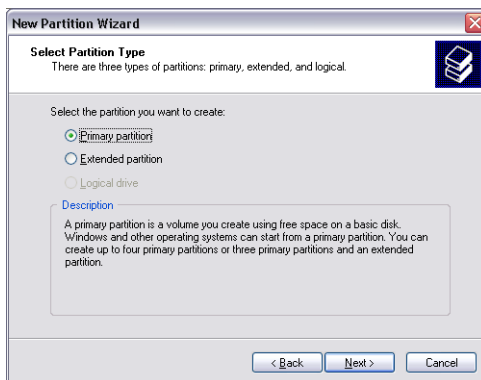
1. Click with the right mouse button on the "My Computer" icon on your desktop.
2. Select the option "Manage".
3. Select the option "Storage" -> "Disk Management".
4. Choose the hard disk, which is "unallocated". Ensure that the entire drive is "unallocated".



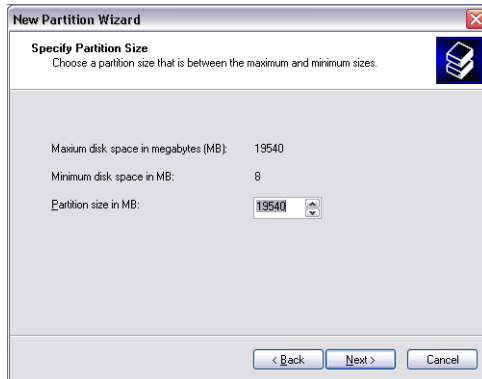
- Click with the right mouse button on the "unallocated" area and select the option "New Partition" (Windows 2000: "Create Partition Wizard"). The "New Partition Wizard" opens. Click on "Next".



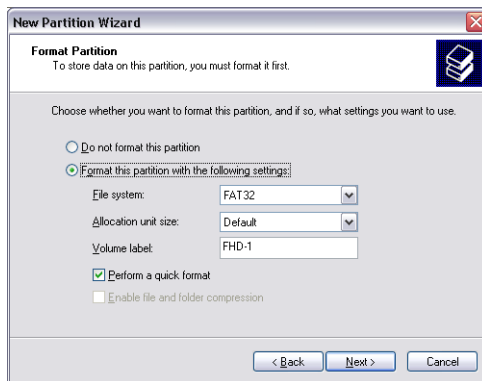
- Select "Primary partition" and click on "Next".



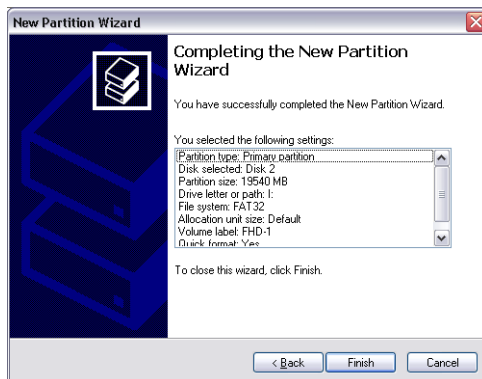
- Now you can adjust the size of your partition. Click on "Next" if only one partition is to be created. See next chapter (Creating two or more partitions on the FHD-2 under Windows XP/2000) how to create more than one partition.



8. Assign a drive letter to your hard disk. Normally you can use the default options. Click on "Next".
9. Select the formatting option. Choose either "FAT32" or "NTFS", the "Allocation Unit Size" should remain on "Default". Finally select "Perform Quick Format" and click on "Next".

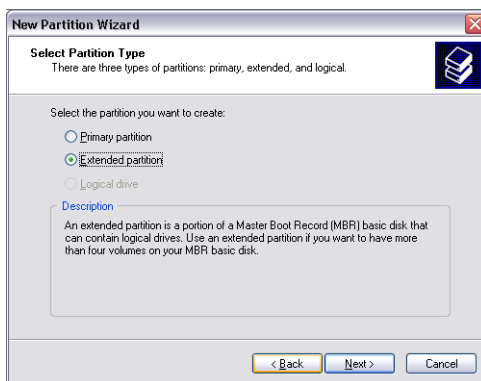


10. Click on "Finish" to complete the partitioning of your FHD-2. Your FHD-2 will be formatted now and is ready-to-use afterwards.

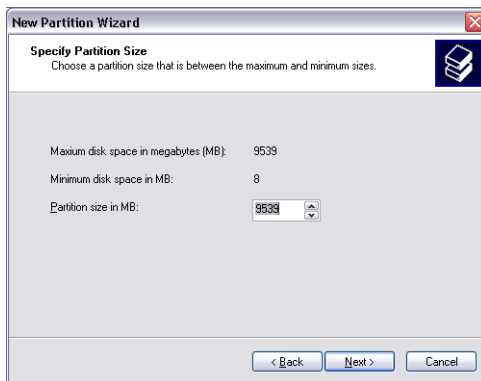


5.4.3 Creating two or more partitions on the FHD-2 under Windows XP / 2000

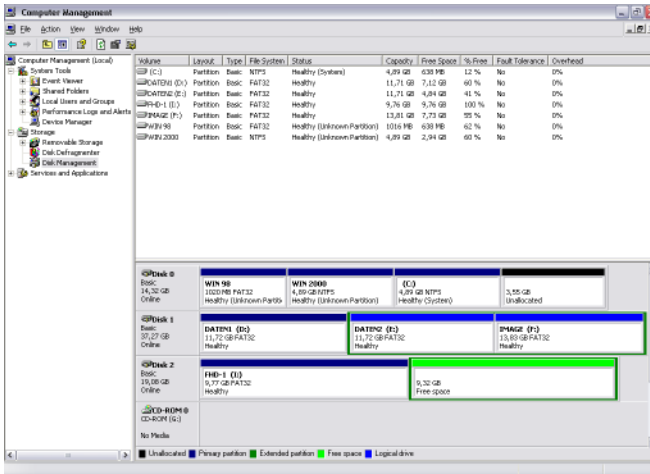
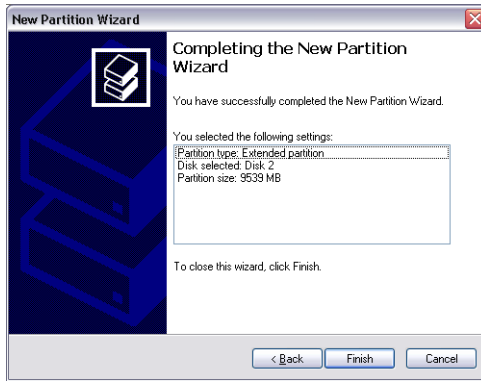
1. Repeat the steps from the previous chapter (Creating a partition on the FHD-2 under Windows XP/2000) for creating the first partition.
2. Click with the right mouse button on the "My Computer" icon on your desktop.
3. Select the option "Manage".
4. Select the option "Storage" -> "Disk Management".
5. Right-click on the unallocated space of your FHD-2 and select the option "New partition" (Windows 2000: "Create partition"). The "New Partition Wizard" (Windows 2000: "Create Partition Wizard") opens. Click on "Next".
6. Select "Extended partition" and click on "Next".



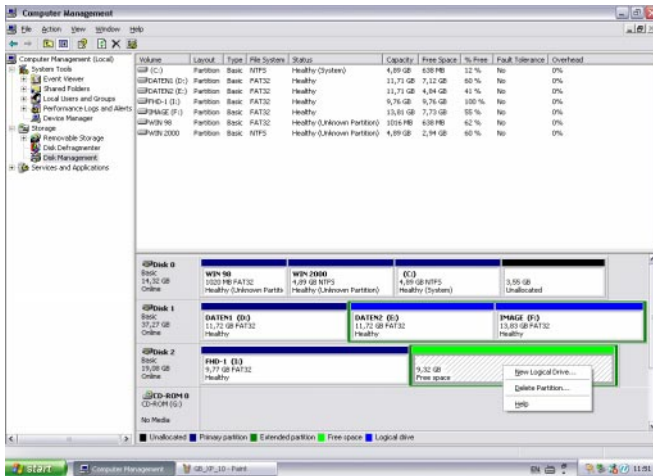
7. Now you can adjust the size of your partition. Enter the size and click on "Next".



8. Click on "Finish" to create the "Extended partition". The unallocated space now changed to "Free space".



9. Right-click on "Free Space" and select "New Logical Drive" (Windows 2000: "Create Logical Drive"). The "New Partition Wizard" (Windows 2000: "Create Partition Wizard") opens. Click on "Next".



10. "Logical drive" is already selected. Click on "Next".
11. Specify the partition size and click on "Next".
12. Assign a drive letter and click on "Next".
13. Select the formatting option. Choose either "FAT32" or "NTFS", the "Allocation Unit Size" should remain on "Default". Finally select "Perform Quick Format" and click on "Next".
14. Click on "Finish" to complete partitioning. Your partition will be formatted now and is ready-to-use.

Freecom Internet Service

Freecom Technologies makes the following service available in the Internet under **www.freecom.com**

- Online information about technical problems
- current product information
- Drivers, driver updates and software information
- Forum

Support Hotline

The following hotlines are available if you still are unable to get your Freecom FHD-2 to work properly after reading the manual and the suggestions for troubleshooting:

	Hotline	Email
België (NL)*	0 78 25 00 00	supportnl@freecom.com
Belgique (F)*	0 78 25 00 01	supportfr@freecom.com
Belgien (D)*	0 78 25 00 02	supportde@freecom.com
Danmark	33 11 42 00	supportint@freecom.com
Deutschland	020 37 68 09 50	supportde@freecom.com
Österreich	+49 (0)20 37 68 09 50	supportde@freecom.com
France	01340 472 05	supportfr@freecom.com
Nederland	015 888 0110	supportnl@freecom.com
Norge	62 82 13 67	supportint@freecom.com
Schweiz (D)	0848 88 99 10	supportde@freecom.com
Suisse (F)	0848 88 77 10	supportfr@freecom.com
Suomessa	03 - 6 10 13 82	supportint@freecom.com
Sverige	08 - 29 66 00	supportint@freecom.com
United Kingdom	01423 704 715	supportuk@freecom.com
Ireland	+44 1423 704 715	supportuk@freecom.com
USA	510 548 48 49	supportusa@freecom.com
other countries	+31 (0) 1 58 88 01 10	supportint@freecom.com

* (alléén in België/seulement pour la Belgique/nur in Belgien)

If possible, try to call from a phone near your computer.

Please have the following information on hand for your call:

- the serial number on the rear side of your Freecom FHD-2
- the revision number of the Manual & Driver CD
- information on the power supply
- the version number of your operating system and the software you are having problems with
- the precise error description or error message displayed
- the name and the model of your notebook or computer and, in case it is needed, the installed hardware
- Is the problem reproduced every time?